

CLAIMS

1. A solar battery system comprising:

a solar battery panel receiving sunlight on a light
5 receiving surface thereof and supplying electricity
generated by photoelectric conversion to the outside;

a heat pipe having a plate-shaped structure,
wherein a surface of said plate-shaped structure on one
end portion side is affixed to a back surface of said
10 light receiving surface of said solar battery panel, and
receiving heat generated at said solar battery panel from
said one end portion and conducting to the other end
portion; and

a heat release part receiving said heat from said
15 other end portion which is conducted through said heat
pipe.

2. A solar battery system as set forth in claim 1,
wherein a serpentine thin hole running some lengths
between said one end portion and said other end portion
20 of said plate-shaped structure is provided inside the
plate-shaped structure of said heat pipe, and a
refrigerant fluid is sealed in said serpentine thin hole.

3. A solar battery system as set forth in claim 2,
wherein said refrigerant fluid is sealed, so that liquid
25 phase parts and gas phase parts thereof exist alternately

in said serpentine thin hole.

4. A solar battery system as set forth in claim 1, wherein a wick, a pressure-proof structure and an operating fluid are sealed in a movable state inside the plate-shaped structure in said heat pipe.

5. A solar battery system as set forth in any one of claims 1 to 4, wherein said back surface of said solar battery panel and said heat pipe are put together by a heat conductive adhesive.

6. A solar battery system as set forth in any one of claims 1 to 5, wherein a surface of said plate-shaped structure on said one end portion side is affixed to a back surface of said light receiving surface of said solar battery panel via a copper plate.

7. A solar battery system as set forth in claim 6, wherein said back surface of said solar battery panel is divided to a plurality of fields, a plurality of said heat pipes are affixed to each of said fields via said copper plate, and a fixed area of said heat pipes and said copper plate is smaller than an area of said fields.

8. A solar battery system as set forth in claim 6 or 7, wherein said back surface of said solar battery panel and said copper plate and/or said copper plate and said heat pipes are put together by a heat conductive adhesive.

9. A thermoelectric hybrid solar battery system,

comprising:

a solar battery panel receiving sunlight on a light receiving surface thereof and supplying electricity generated by photoelectric conversion to the outside;

5 a heat pipe having a plate-shaped structure, wherein a surface of said plate-shaped structure on one end portion side is affixed to a back surface of said light receiving surface of said solar battery panel, and receiving heat generated at said solar battery panel from
10 said one end portion and conducting to the other end portion; and

a hot water generation part for obtaining hot water by storing water inside, immersing the end portion of said other side of said heat pipe in said water, and
15 transferring said heat conducted in said heat pipe from said other end portion side to said water to heat said water.

10. A thermoelectric hybrid solar battery system as set forth in claim 9, wherein a serpentine thin hole running
20 some lengths between said one end portion and said other end portion of said plate-shaped structure is provided inside the plate-shaped structure of said heat pipe, and a refrigerant fluid is sealed in said serpentine thin hole.

25 11. A thermoelectric hybrid solar battery system as set

forth in claim 10, wherein said refrigerant fluid is sealed, so that liquid phase parts and gas phase parts thereof exist alternately in said serpentine thin hole.

12. A solar battery system as set forth in claim 9,
5 wherein a wick, a pressure-proof structure and an operating fluid are sealed inside the plate-shaped structure in said heat pipe.

13. A thermoelectric hybrid solar battery system as set forth in any one of claims 9 to 12, wherein said back
10 surface of said solar battery panel and said heat pipe are put together by a heat conductive adhesive.

14. A thermoelectric hybrid solar battery system as set forth in any one of claims 9 to 13, wherein a surface of said plate-shaped structure on said one end portion side
15 is affixed to a back surface of said light receiving surface of said solar battery panel via a copper plate.

15. A thermoelectric hybrid solar battery system as set forth in claim 14, wherein said back surface of said solar battery panel is divided to a plurality of fields,
20 a plurality of said heat pipes are affixed to each of said fields via said copper plate, and a fixed area of said heat pipes and said copper plate is smaller than an area of said fields.

16. A thermoelectric hybrid solar battery system as set
25 forth in claim 14 or 15, wherein said back surface of

said solar battery panel and said copper plate and/or said copper plate and said heat pipes are put together by a heat conductive adhesive.

17. A thermoelectric hybrid solar battery system as set
5 forth in any one of claims 9 to 16, wherein a heat release accelerator for improving an effect of conducting heat to said water is formed at the end portion of said other side of said heat pipe.

18. A thermoelectric hybrid solar battery system as set
10 forth in any one of claims 9 to 17, comprising a hot water bath to be supplied with hot water from said hot water generation part.

19. A thermoelectric hybrid solar battery system as set
15 forth in any one of claims 9 to 18, wherein said hot water generation part has a tank shape.

20. A thermoelectric hybrid solar battery system as set
forth in any one of claims 9 to 18, wherein said hot water generation part has a pipe shape.

21. A thermoelectric hybrid solar battery system as set
20 forth in claim 20, wherein:

said solar battery panel is installed along a slope at an angle with a horizontal plane; and

said hot water generation part is provided to be connected to said solar battery panel via said heat pipe
25 at sides arranged to be inclined along said slope of said

solar battery panel.